



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/543,951	04/06/2000	William S. Dalton	1633-015A	7898

7590 01/27/2003
Bradley N Ruben
463 First Street
Suite 5a
Hoboken, NJ 07030

EXAMINER

RODGERS, MATTHEW E

ART UNIT	PAPER NUMBER
----------	--------------

3677

DATE MAILED: 01/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/543,951

Applicant(s)

DALTON ET AL.

Examiner

Matthew E. Rodgers

Art Unit

3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandon et al (USPN 5,810,365) in view of Bagepalli et al (USPN 6,030,175). Brandon shows a retractable packing segment disposed in a ring and centered on an axis defined by a shaft of a turbine, the packing segment having an inner face (13), and an outer face supporting a T-shaped extension (13a, 13c). The inner and outer faces and the T-shaped extension span opposing side ends of the segments, the side ends cut parallel with the radii of the axis of the shaft. Brandon also shows labyrinth seal structure having a plurality of fins (14) on the inner face of the segments that extend different distances from the inner face. However, Brandon does not show a brush seal.

Bagepalli teaches the use of a brush seal in cooperation with a labyrinth seal in a hybrid segmented packing assembly for the purpose of limiting gas-path leakage into or out of the gas path of a turbine (col. 1, lines 10-29). Bagepalli shows at least one brush seal (54) disposed on the inner face of the segment, the opposing ends (48, 50) of the inner face cut parallel with the radii of the axis of the shaft, and the brush seal having opposing ends cut non-parallel with the radii of the axis of the shaft. The brush seal is formed in the geometry of a ring formed from a plurality of adjacent abutting packing segments (10). One of the opposing ends of the brush seal

Art Unit: 3677

are cut angled to form a tongue extending past the segment end (60). The other of the opposing ends cut to form a channel (46) to accept a tongue formed by a brush seal on another packing segment.

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to make the seal of Brandon incorporating a brush seal with opposing ends cut non-parallel with the radii of the axis of the shaft.

Response to Arguments

Applicant's arguments filed November 6th, 2002 have been fully considered but they are not persuasive.

In response to applicant's argument that "it is impermissible to pick and choose from a reference only so much of the disclosure as will support a rejection" and applicant's argument that the rejection set forth above is achieved likewise, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). It should be clear that the Brandon reference is used to show a retractable, segmented seal ring having a labyrinth seal arrangement and that the Bagepalli reference is *used as a teaching* to show that it is well known in the art to provide, in part, a labyrinth seal arrangement with a brush seal and is therefore not taken out of context of the surrounding structure in which it is housed.

Art Unit: 3677

Applicant argues, both in the remarks of the November 6th response and in the submitted declaration of Erik Sulda that the combination of the structure of Bagepalli when used to modify Brandon is in appropriate since the brush of Bagepalli is circumferentially displaced with mounting block (30) relative to the segments (26, 28) to protect a worker from injury caused by the sharp edges of the brush. However, the *teaching* of Bagepalli still stands that it is well known to provide a segmented brush having intermeshing angled ends in a labyrinth seal arrangement. Whether one with ordinary skill in the art is concerned with worker safety and subsequent circumferential displacement of the brush, it still stands that Bagepalli's *teaching* would motivate one to provide a labyrinth seal with a brush.

The declaration of Erik Sulda contends that in the event that the circumferential displacement of the brush of Bagepalli was included in the modification of Brandon, that the mating surfaces of the segments (26, 28) and the mounting block (30) would prevent the seal segments (10) of Bagepalli from being properly and uniformly forced radially outward by the springs (16) of Brandon in a low-load condition of a turbine engine due to friction between the surfaces. However, the Examiner asserts that there is no indication in either the description of the springs (16) of Brandon or the surfaces of Bagepalli that this is true. The friction between the surfaces is directly related to the material used. Bagepalli suggests that the mounting block (30) and segments (26, 28) be made of a monolithic piece of stainless steel. There is no indication that mating stainless steel surfaces would create excessive friction to prevent the surfaces from sliding relative to each other. Additionally, it has been held to be within general skill of a worker in the art to select a known material on the basis of its suitability for the

Art Unit: 3677

intended use as a matter of obvious design choice. *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

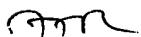
Art Unit: 3677

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Rodgers whose telephone number is (703) 306-3406.

The examiner can normally be reached on regular work hours.

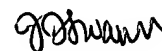
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on (703) 306-4115. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9326 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.



MR

January 16, 2003



J. J. SWANN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600